

The Cable That Failed

Hawaii's First Submarine Cable

BY A. P. TAYLOR

The events of the last few days recall to the minds of many the fact that but a few years ago Hawaii had another cable-laying experience, which, although it finally failed, promised great results and raised great hopes at the time. How fast Hawaii has made recent history is evidenced by the fact that although this event occurred in 1888-1889, it is with difficulty and a considerable amount of research only that the story of the cable that failed has been obtained.

In the spring of 1888, J. Sherman Bartholomew of Kansas City, Mo., and connected by marriage with prominent residents of Honolulu, arrived in this city with good letters of recommendation. He had been in the employ of the Western Union Telegraph Company and was a practical telegraph constructor and operator and a bright, active man. He stated that for deep sea cables, ex-

Government and Mr. Bartholomew. A corporation was formed with a subscribed capital of \$100,000, to which the franchise was assigned.

Mr. Bartholomew immediately went abroad and purchased material for the land line from Honolulu to Koko Head. This line was built. Mr. Bartholomew then went east and purchased forty miles of copper core and gutta percha insulator surrounding the same, to be used in making sufficient cable to cross the channels to Molokai and Maui. He also purchased the poles for the land line on Molokai from the west end to Pukoo, opposite Maui; chartered the British schooner Tupper to bring all of this material to Honolulu and returned in her himself, arriving here July 28, 1889.

Meanwhile a supply of cocoanut fiber cord, with which to wind this core, had been obtained from the Marshall Islands, and the completion of the manu-

FEDERAL COLLECTIONS AND EXPENDITURES

COLLECTIONS.	
Customs	\$3,192,660.15
Internal Revenue	201,986.63
Postoffice	188,899.93
Total	\$3,583,546.71
EXPENDITURES.	
Customs	\$238,898.88
Quarantine	139,500.00
Internal Revenue	46,992.40
Postoffice	376,175.62
Agricultural Station	\$8,950.00
Judiciary	144,969.06
Executive	27,500.00
Total	\$1,002,985.96

With certain allowances for the estimates which must be made in attempting to ascertain the receipts and disbursements of a bureau of the Federal Government, which reports but once a year, and that in mid-summer, the above recapitulation represents the amounts of cash collected by the local officials of the Nation, as well as the expenses of administration and housing the offices, since June 14th, 1900. There are some figures given with exactness, for it is possible to secure such figures in the smaller offices, but in the larger ones there must be left to round sums any attempt to accurately size up the business of the office.

The customs department is clearly the source of the highest revenue and the increase in the collections in this department have been very notable, though the last half of the present year, estimated at \$600,000, will be a considerable falling off. The gain of the year 1902 over the preceding period, was \$108,460. The increase of expenditure was not out of proportion. There has been very little money spent on the customs department alone, the total being within \$7,000, and that for repairs to buildings. The quarantine service in a sense is connected with the customs department, and the expenses in that end have been heavy. The buildings have cost, with other expenses connected with the bureau, about \$50,000 and the cost of maintenance is just as high.

The administration of Justice has been one of the trials of the United States here. The great increase in the number of admiralty cases some time ago had the effect of running up the charges based on a captain misusing his workmen. This has called for a heavy addition to the sums already used for the witnesses and such like expenses. There will be a report very soon which will show just what has been done in

this respect but an arbitrary charge of \$20,000 was regarded as offsetting the charges of the preceding year.

The postoffice has been a fair revenue earner for the United States Government before the present time, and now these islands are among those which receive benefits which could not be paid for alone. The collections for stamps and fees in the Presidential offices aggregated a net revenue of \$20,968.11, for the year closed. This was a great falling off from what was collected the year before. The principal item of expense connected with the postal establishment is that for the carriage of the mails. The star routes and general charges have increased to a wonderful extent, and the result is that there is no money in the Postoffice establishment any more.

The Internal Revenue bureau has its share of the revenues to turn into the Treasury and it is proving one of the profit makers for the Federal cashbox. The total collections for the two and a half years have been \$201,986.63. To offset these collections there have been expenditures \$46,992.40. The principal charge against this bureau, was the registration of the Chinese. This work at one time employed as many as seventy-four men and the total cost of the job was about \$22,000.

In the matter of the Executive, where there are salaries for the Governor and Secretary and the private secretary to the Governor, and in the Agricultural experiment station work, there have been no expenses other than the regular item of salaries.

In this discussion of the expenses of the National Government in connection with the control of the Territory of Hawaii, no mention is made of the expenditures of the Army or Navy departments. The charges made against the funds of those offices were in the nature of expenses for the national defense, and the money would have been spent her in part at least, had Hawaii remained foreign territory. The stops of transports was a necessity, in no part due to the fact that Hawaii was a part of the United States and in point of fact there is being expended now large sums for coal and through soldiers visit at Nagasaki, while to Honolulu a transport seldom comes. The great improvements contemplated are yet to be realized and should be perhaps based in part upon the excess of the collections.

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OPERATOR HARWOOD RECEIVING THE MESSAGES.

cent for the shore ends, it had been demonstrated that armored cables were not necessary; that the regulation core wound with several thicknesses of cocoanut fiber, each treated with a pitchy substance, was all sufficient; that a cable of this construction some forty miles in length had been in use for ten years or so in Nova Scotia and that it had been used to repair existing Atlantic cables. He further stated that a cable constructed in this manner was very much cheaper than the cable ordinarily in use, as no wire was used except at the shore ends, and it could be made here, thereby saving manufacturers' profits which were large.

Mr. Bartholomew presented docu-

ment of the cable began in a shed in the old Emmes ship-building yard at the foot and west of Maunakea street. A crude cable-winding plant was erected here and three layers of cocoanut fiber were wound on the core, each layer receiving a heavy coating of a tar mixture for preservative purposes. No wire sheathing or armor was used on the main portion of the cable, a mile or so of armored cable having been imported to be used at the ends, where it was expected that sharp coral would be met with, the belief being that beyond that distance the soft bottom would render any wire protection unnecessary. The incorrectness of this belief was destined to cause the failure of the enter-

prise with the first piece. A large portion was of the Molokai land line was completed and subsequently used as a telephone line. Some of the poles to Koko Head are still standing and up to a year or so ago the shore end of the cable was still to be seen at Hanauma Bay, the only remaining tangible evidence of the "cable that failed." The promoters hoped to reinforce and strengthen the cable, and for this purpose some of it was brought back and again landed at the Emmes wharf, and an act of the legislature of 1890 was secured, extending the term of the Bartholomew franchise to 1892. But, in spite of everything that could be done, the enterprise was eventually abandoned as a total failure, and even the books of the company were consumed in the Hall & Son fire two years ago, leaving the enterprise but a disappointing memory.

The cause of the failure was the fact that instead of the soft ooze which was expected, a sharp coral and rocky bottom was found for a long distance from shore, which speedily cut the frail cocoanut fiber armor.

There is nothing inherently difficult in laying and maintaining an inter-island cable, but this experience proves that it must be heavily protected by wire armor.

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tary evidence substantiating these claims, and so impressed a number of the local people that in July, 1888, an Act was passed by the Hawaiian Legislature, authorizing the government to contract with Mr. Bartholomew, giving him and his associates the exclusive right to lay and operate inter-island cables for ten years from January 1, 1889. A subsidy of \$25,000 was provided to be paid "upon the completion of the line in good working condition," \$18,000 for the line from Oahu to Maui; \$8,000 for the line from Maui to Hawaii, and \$9,000 for the line to Kauai. Rates were fixed at ten cents a word for commercial messages, and five cents a word for government and press messages. The contract was duly made between the

Early in August the cable was loaded onto the Tupper and, under tow of the tug Elew, the laying of the cable from Hanauma Bay, the eastern side of Koko Head, to Molokai, was begun. A heavy trade wind was blowing and the sea was quite rough, resulting in several breaks and failures. Finally, the cable was landed at Molokai and it was claimed that one message was gotten through, when the cable ceased acting. Upon being fished up it was found that the sharp coral and rocks had cut completely through the cable, and that it was breaking faster than it could be mended. The cable from Molokai to Maui was then laid but the experience with this section was but a repetition of

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